

REMARKS

This application has again been reviewed, in light of the Office Action dated April 15, 2008. Claims 1 and 11-13 are presented for examination, of which Claims 1 and 11 are in independent form. Claims 2, 6-10, and 14-17 have been canceled without prejudice or disclaimer of subject matter, and will not be mentioned further. Claims 1 and 11 have been amended to define still more clearly what Applicants regard as their invention. Favorable reconsideration is requested.

Claim 11 was rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicants respectfully disagree with the statement in paragraph 8 of the Office Action that Claim 11 fails to provide the necessary hardware required for the claim to fall within the statutory category of an apparatus. The apparatus of Claim 11 includes a holding unit, a first designation unit, a setting unit, a second designation unit, and a first release unit. Applicants submit that the apparatus claimed in Claim 11 complies with 35 U.S.C. § 101 and that each unit of the claimed apparatus would not be interpreted by one of skill in the art as being comprised entirely of software per se. For example, the holding unit is for holding hierarchical structure information of the plurality of data items. It is not seen how such holding unit could be interpreted by one of skill in the art as being only software, without physical structure such as a memory of some kind. As correctly noted in the Office Action, “[w]hen functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.” (*In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ 2d 1031, 1035 (Fed. Cir. 1994)). Moreover, Claim 11 does not merely

claim nonfunctional descriptive material on a computer-readable medium. Applicants submit that the units of the apparatus of Claim 11 produce a concrete and tangible result (permit the function of the units to be realized) of setting an exclusive control right of a data item by a specific process in a system in which a plurality of processes that can communicate with each other via an information transmission medium.

Claims 1 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 7,062,532 (*Sweat*) in view of U.S. Patents 5,933,825 (*McClaghry*) and 7,249,314 (*Walker*). Applicants submit that independent Claims 1 and 11, together with the claims dependent therefrom, are patentably distinct from the cited prior art for at least the following reasons.

Independent Claim 1 is directed to an information processing method for setting an exclusive control right of a data item by a specific process in a system in which a plurality of processes that can communicate with each other via an information transmission medium share data including a plurality of data items by use of a data structure which has a hierarchy structure having a data item corresponding to an operational object as a root and describes a structural dependence of the virtual space. Each of the data items has type information indicating that the data item belongs to a first type or a second type. When the first type is indicated by the type information, an exclusive control right is set to the specific process for the data item and all data items belonging to a lower layer of the data item when no exclusive control right is set for the data item and all data items. When the second type is indicated by the type information, the exclusive control right is set to the specific process for data items for which no exclusive control right is set, of the designated data item and all data items belonging to a

lower layer of the data item. The method includes a first designation step of designating a data item for which the exclusive control right is to be set. The method also includes a retrieval step of retrieving a data item which belongs to a lower layer of the data item designated in the first designation step on the basis of hierarchical structure information of the plurality of data items. The method includes a determination step of determining whether or not an exclusive control right by another process is set, for each data item retrieved in the retrieval step. In addition the method includes a setting step, such that (1) when the designated data item is indicated as the first type by the type information, setting the exclusive control right for the specific process as to the designated data item and as to a retrieved data item retrieved in the retrieval step only if no exclusive control right is set by other process for the designated data item and all of the retrieved data items; and (2) when the designated data item is indicated as the second type by the type information, setting the exclusive control right for the specific process as to the designated data item and as to the data items for which it is determined in the determination step that an exclusive control right by another process is not set. The method further includes a second designation step of designating a data item for which the exclusive control right is to be released; and a first release step of releasing the exclusive control right of the specific process as to the data item designated in the second designation step and a data item which belongs to a lower layer of the data item designated in the second designation step, while maintaining the exclusive control right of the specific process as to a data item which belongs to an upper layer of the data item designated in the second designation step.

Among other notable features of the method of Claim 1 is the setting step of (1) when the designated data item is indicated as the first type by the type information, setting the

exclusive control right for the specific process as to the designated data item and as to a retrieved data item retrieved in the retrieval step only if no exclusive control right is set by other process for the designated data item and all of the retrieved data items; and (2) when the designated data item is indicated as the second type by the type information, setting the exclusive control right for the specific process as to the designated data item and as to the data items for which it is determined in the determination step that an exclusive control right by another process is not set. By virtue of this feature, each of the data items has type information indicative of the first type or the second type, and the exclusive right setting process is changed in accordance with the type information set in the designated data item such that flexible and appropriate exclusive right setting processes can be realized.

Applicants submit that none of the cited references, even if taken in combination, would teach or suggest the setting step of Claim 1, because all of the cited references fail to teach or suggest setting the type information indicative of exclusive right setting process type to each of the data items and changing exclusive right setting processes based on the type information.

Moreover, it is submitted that *Walker* does not teach or suggest the first release step of releasing the exclusive control right of the specific process as to the data item designated in the second designation step and a data item which belongs to a lower layer of the data item designated in the second designation step, while maintaining the exclusive control right of the specific process as to a data item which belongs to an upper layer of the data item designated in the second designation step. The Office Action points to col. 44, lines 10-40, as teaching this step. According to this portion of *Walker*, however, a client sends a “post new document”

request to a workspace server to post a new document and sends a branch of a container tree. The client waits for a “confirm post” and “unlock” message from the workspace server to indicate that the root container has been unlocked, the root container being a higher level storage location. The workspace server can then broadcast to all clients that the new document has posted and that the root container has been updated. Then, the client locally updates a copy of a container tree and the root container. As a result the client’s local copy of the container tree (lower level) is synchronized with the workspace server’s master copy of the container tree (upper level). The end result of this process is that the root container on the server (upper level) is locked (no exclusive control right), and the local copy of the container tree (lower level) on the client is unfrozen (i.e., released). Therefore, the exclusive control right of the process as to a data item which belongs to an upper layer of the data item (i.e., the root container on the server) cannot be deemed to be maintained, since the root level is the uppermost level.

For all these reasons, Claim 1 is believed to be clearly allowable over the art of record.

Claim 11 also recites these features, and therefore is believed to be allowable over the art of record.

The other claims in this application are each dependent from Claim 1, and are therefore believed patentable for at least the same reasons. Because each dependent claim also is deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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